Original Lectures.

LECTURES ON NEW REMEDIES AND THEIR THERAPEUTICAL APPLICATIONS.

DELIVERED AT THE
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LECTURE IV.—PART III.

IODINE AND ITS COMPOUNDS.

Let us now consider the various compounds of iodine; the most important of these is the

IODIDE OF POTASSIUM—POTASSII IODIDUM—formula KI.

There are many methods of preparing this salt; the following is, I think, the best. To a freshly prepared and cold solution of caustic potash, sp. gr. 1·33, dry iodine is gradually added with constant stirring, until the solution acquires a brownish yellow color. After being allowed to stand for some hours, the whole is poured into a porcelain dish and evaporated to dryness, then finely powdered and intimately mixed with one-twelfth its weight of powdered wood charcoal, and the mixture projected by spoonfuls into a red hot crucible; when the whole is thrown in, the heat is continued for ten minutes, and the contents then thrown into a clean open vessel. When cold, the salt is dissolved in hot water, filtered, and evaporated slowly to crystallization. The mother liquor is carefully drained off and again evaporated to crystallization. The last portions usually contain a small amount of carbonate of potash, to which alcohol is added, which dissolves out the iodide but leaves the carbonate of potash. The addition of the charcoal, and the application of heat, are to convert the iodate of potassa (KO, IO_5) into iodide of potassium (KI).

Iodide of potassium crystallizes in white cubes and octohedrons, which are without odor, and of a pungent, saline, and unpleasant bitter taste. It is necessary to keep them in a dry place, for they readily absorb water from the atmosphere, and become yellow and moist. It dissolves in three-quarters its weight of cold, and half its weight of hot water. It is very soluble in ether and alcohol.

Therapeutical Applications.—This preparation of iodine is more frequently used than any other, and iodine itself is seldom used unless it is in combination with this salt, as in the compound tincture and solution before referred to. It is milder in its action than iodine, and produces much less gastric disturbance; but if taken in full doses, the eructations and sense of heat in the stomach are quite unpleasant. As this salt is applicable in nearly all cases where iodine is required, and as we have given you the therapeutic action of iodine, it is unnecessary to repeat it here. The compound of iodine with iodide of potassium is asserted by some not to be a simple solution, but that the iodine is chemically combined with it, and is a definite chemical compound. A slow reaction is also said to take place between iodide of potassium and nitric ether, forming hydriodic ether and nitrate of potash; the decomposition may be thus expressed: $C_4H_5O, NO_5 + KI = C_4H_5I + KO, NO_5$. The medicinal effects in neither of these cases would be interfered with.

Iodide of Ammonium has been very highly recommended as superior to iodide of potassium in secondary syphilis. Dr. Gamberini, of Bologna, has written a monograph on this salt, and has pointed out the advantages it possesses in the treatment of syphilis over the other iodides. But other physicians have not found the advantages he claims, and its exceedingly deliquescent nature renders it inconvenient to use. Upon theoretical grounds, there would be no advantage in this salt.

Iodide of Starch was first recommended by Dr. A. Buchanan of Glasgow, as a means of administering large doses of iodine without irritating the stomach. It is prepared by rubbing twenty-four parts of starch powder with twenty-four parts of cold distilled water, and to this solution one part of iodine in twelve parts of alcohol is added. When well mixed it is washed with cold water, thrown on a filter, and water added till it runs off quite colorless. It is dried without heat, and kept in stoppered bottles. A soluble iodide of starch has been made by moderately roasting the starch, and thus converting it into dextrine, before it is mixed with the iodine. The soluble iodide of starch thus formed may be made into a syrup, which is of a splendid violet-blue color, and contains two and a half per cent. of soluble iodide of starch, and about quarter of one per cent. of iodine. The iodide of starch has been but very little used, although it seems to be much less irritating than some of the other preparations of iodine. It was at first given upon the theory that all the different preparations of free iodine united with the starchy materials of the food, and in the stomach were converted into iodide of starch; but this theory does not hold good. That the iodine is absorbed has been proved by the presence of iodine in the urine within a short time after it has been taken. A colorless iodide of starch was presented last year to the French Academy of Sciences by M. Duroy, who brings the iodide in contact with yeast, and thus deprives it of its color; in this state it is very soluble in water, insoluble in alcohol, sweet, gummy, and incapable of crystallization. The addition of yeast, then, would have some influence in the detection of iodine by starch.

You will remember that, in my lecture on iodide of iron, I told you that I had occasionally seen colored particles of iodide of starch pass with the fæces. You will not often see these colored particles, only in those cases where the food is undigested and passes rapidly through the intestines, for all the secretions of the body have the property of depriving the iodide of starch of its color. The saliva, the nasal and pulmonary mucus, the blood and the urine, when added to small quantities of iodide of starch, completely deprive it of color; the same decolorization also takes place if applied over an ulcer, and the sweat produces the same result. These are facts that are readily noticed by any observing person. But, in addition to these, Dalton has demonstrated to us that the gastric fluids decolorize the iodide of starch almost immediately upon contact with them, and that the iodine leaves the starch, enters into combination with the organic matter, is absorbed, passes through the circulation, and is discharged in combination with other substances in the urine. It was formerly a universal recommendation, it is at present very frequent, to administer iodine and its compounds at intervals between meals, fearing that it should combine with the starchy matters of the food, and thus become insoluble and inert. But we see by the experiments performed by Dalton that such directions are entirely unnecessary, as the starch, even if given in combination with the iodine, cannot retain it in combination in presence of the digestive fluids, unless the iodine is in great excess. The iodine unites, in some peculiar way, with these organic substances, leaving its combination with the starch; and that such union does not take place with an alkali presented in the fluids, but owing to some peculiar property of the organic substances themselves, is proved by the effect being equally produced by the acid secretions.

HYDRARGYRI IODIDUM, Hg_2I.

Proto-Iodide of Mercury.—Iodide of Mercury.—Mild Iodide of Mercury.—Green Iodide of Mercury.

Preparation.—The U. S. Dispensatory directs that one ounce of mercury and five drachms of iodine be rubbed together with a sufficient quantity of alcohol to form a soft paste, continuing the trituration until the globules disappear. It is then dried with gentle heat, and kept in well stoppered bottles in a dark place. The iodide prepared in this man-

ner frequently contains a considerable quantity of the biniodide of mercury (the preparation we will next speak of), and to remove this, a better method of preparation is required. By the following formula this compound may be obtained pure:—Eight parts of mercury are triturated in a porcelain mortar with five parts of iodine, to which a few drops of alcohol are added from time to time, and the trituration continued until the whole is converted into a dark yellowish green powder, and no traces of metallic mercury are visible even under a magnifying glass. The operation should be conducted in a moderately dark place, or the mortar should be covered with a cloth to exclude the light. Alcohol is now added by degrees, constantly triturating, until the whole is reduced to a thin paste, which may be thrown upon a filter in a dark place, and washed with alcohol until the alcohol which passes ceases to give a black precipitate or turbidness with sulphuret of ammonium. The whole may now be dried with a gentle heat, put into a closely stoppered bottle, and kept in a dark place. You will observe that this formula is, in substance, the same as the one above given, excepting that it directs the product to be washed with alcohol, which dissolves out any biniodide formed, as that substance is soluble in alcohol, whereas the iodide is insoluble.

The proto-iodide (or mild iodide) of mercury is a dark greenish yellow, tasteless, and odorless powder, insoluble in water and alcohol, wholly volatilized by heat. You will observe as I expose it to heat in this test-tube, it first becomes of a reddish color; as the heat is continued it becomes yellow; the iodine is now passing off, as you see by the violet-colored vapor, and the crystalline plates of iodine on this cold portion of the tube; the mercury, in metallic form, is deposited around the tube lower down.

HYDRARGYRI IODIDUM RUBRUM, HgI.

Hydrargyri Biniodidum.—Hydrargyri Periodidum.—Red Iodide of Mercury, Biniodide of Mercury.

Preparation.—Dissolve five parts of corrosive chloride of mercury in 100 parts of water, and add a solution of iodide of potassium, dissolved in ten times its weight of water, so long as a precipitate forms, taking care that an excess is not added. The amount of iodide of potassium required will depend upon its purity, but generally from six to seven parts. Collect the precipitate upon a filter, wash with distilled water, and dry with a gentle heat. It must be kept in a well-stoppered bottle in a dark place.

As thus prepared it is a brilliant scarlet powder, without taste or odor. As prepared by the Edinburgh process it is in crimson acicular crystals. Water dissolves but a mere trace of it. You see that both the powder and crystals are soluble in alcohol, in solutions of chloride of sodium, iodide of potassium, and mercurial salts, by which means it may be separated from red oxide of lead, cinnabar, and other adulterations. Heated in a test-tube you see it becomes yellow, fusing to a brownish yellow liquid, and now it is sublimed in the upper part of this tube in a yellow crystalline mass, which as it cools becomes gradually red. This change of color from yellow to red proves its dimorphous character, and is dependent upon its different crystalline form. This compound is frequently given in combination with iodide of potassium, the potassium salt being very largely in excess; but there is a definite formula for the preparation of the *Iodohydrargyrate of Potassium*, which we will give before we treat of the therapeutic action of these two last preparations.

Iodohydrargyrate of Potassium.—Dissolve three and a half grains of pure iodide of potassium in one ounce of distilled water, to which add four and a half grains of the red iodide of mercury. The dose is from two to five minims, containing from the thirtieth to the twelfth of a grain. This compound was recommended by Dr. Channing in 1834, but Bousdorff had investigated its chemical character in 1826, and stated that it consisted of mercury acting as an acid, and iodide of potassium as a base. Such is not my opinion, but I give you the formula.

Uses of the Iodides of Mercury.—The mild iodide has been largely employed in the treatment of primary syphilis. Some have used it in preference to other forms of mercury, asserting that it is less liable to produce salivation; others, from its combination with iodine, that it more quickly causes absorption and removal of the syphilitic poison. But its most useful application is in the disease above mentioned, associated with scrofula. When pure, its action on the system very much resembles calomel, but it requires much more care in its administration. Even when freshly prepared, unless the precautions we mentioned to you are observed, it frequently contains more or less of the more powerful compound, the red iodide; even if perfectly pure when made, if it is subjected to light, or to damp atmosphere, a change takes place, whereby a portion is decomposed, and red iodide and metallic mercury formed. When made into pills and kept for a length of time, the same change frequently takes place. A change also is produced in it when combined with iodide of potassium. You should remember, then, in administering this agent that it is very liable to change, and may easily be converted into the red iodide. These two preparations bear much the same relations to each other that the two chlorides of mercury do. We are therefore enabled to understand why there has been so much difference of opinion respecting the effects of this mild iodide; some asserting that it is a powerful irritant poison in doses of one or two grains, and others contending that it may be safely administered in the same doses as calomel. The former class have undoubtedly used an impure article, containing red iodide, while the latter have used a pure article free from this impurity. If pure, it may be safely administered in doses from two to ten grains, but its exhibition in large doses is, in my opinion, seldom needed; for, if used, it is for its constitutional, not for its purgative effects, and this may be produced by doses of one grain better than by doses of ten grains. If the constitutional effects of the remedy are needed, one grain may be administered every two, four, or six hours, if necessary in combination with opium. Its most convenient form of administration is as follows:—Mix it with a small quantity of finely powdered sugar, place the whole upon the tongue, and take a swallow of water. It has been used in the form of ointment in skin diseases of a scrofulous character, and also as an unction to produce salivation; but it is liable to the same changes in the ointment that I have before mentioned, and therefore should be used with great caution.

The Red Iodide of Mercury is much more powerful in its action than the proto-iodide, and much resembles the corrosive chloride of mercury in its effects, and is used in the same class of diseases. It is generally administered internally in solution of iodide of potassium, and on this account is frequently given in cases of strumous syphilis. It has been much employed in the form of ointment in obstinate skin diseases, especially in lupus. When the ointment is applied to the skin, after a few applications it produces a feeling of heat and smarting which lasts for several hours, and leaves the skin reddened and irritated for some time. If the application is continued, the reddened surface is covered by a number of minute serous vesicles, which, when they dry up, have an epidermic crust. This treatment has been adopted with much benefit by some of the French physicians in acne, and in some of the more obstinate syphilitic skin diseases.

Arsenici Iodidum, AsI_3.—Iodide of arsenic is prepared by rubbing one part of arsenious acid with four parts of iodine to a very fine powder. The mixture is then put into a flask, and gentle heat applied until liquefaction occurs, and then poured out on a porcelain slab. The iodide of arsenic is an orange red crystalline solid, soluble in water, and volatilized by heat. Its principal use is in preparing the iodide of arsenic and mercury. It is not much employed in medicine, but is occasionally used, in obstinate skin diseases, both internally and as an external application.

Liquor Arsenici et Hydrargyri Iodidi.—Solution of the Iodide of Arsenic.—Donovan's Solution.—Take of the iodide

of arsenic, red iodide of mercury, each thirty-five grains; distilled water half a pint. Rub the iodides with half a fluid ounce of the water, and when they have dissolved, add the remainder of the water, heat to the boiling point, and filter. (U. S.) This solution was introduced to the notice of the medical profession, by Dr. Donovan of Dublin, in a paper in the *Dublin Journal of Medical Sciences*, for Nov. 1839, though the formula above given is that recommended by Prof. Proctor. As thus made, it is of a pale yellow color, and styptic taste.

This solution has been much used as an alterative in the treatment of many of the obstinate forms of disease of the skin, as lupus, pityriasis, psoriasis, porrigo, impetigo, herpes, and lepra, and in both the papular and scaly eruptions of syphilitic character. The dose prescribed by Dr. Donovan is from five to twenty drops, three times a day, in water. It is incompatible with opium and its alkaloids. Doses of twenty minims contain one twenty-fourth of a grain of arsenious acid, about one-twelfth of a grain of deutoxide of mercury, and about one-fourth of a grain of iodine. In doses of twenty minims it is apt to create gastric disturbance, and if continued for many days will produce salivation; it is therefore better to administer it in smaller doses, especially as in many of the diseases in which it is used it is necessary to continue its use for some time. In the short time left to me I cannot dwell too long on any one article; I must therefore refer those of you who feel inclined to study this subject more deeply to the papers of Dr. Donovan, and that of Dr. I. E. Taylor, in the *Am. Jour. Med. Sciences*, v. 319.

Of the iodides of gold, iron, lead, manganese, silver, sulphur, and zinc, we have spoken when treating on these different metals.

Iodoform, C_2HI_3.—Dissolve two parts of carbonate of potash in five parts of water, in a long necked flask; to this solution add two parts of iodine and two parts of alcohol; place the flask in a hot water bath until the solution is colorless. When cool, the greater part of the iodoform crystallizes out, and the yellow scales are collected on a filter, washed with water, and dried, by pressing several times between folds of filtering paper. Iodoform forms yellow laminated scales, which are soft to the touch, and possess an odor resembling chloroform and iodine, or something like saffron; it has at first a peculiar sweetish taste, which soon becomes disagreeably strong of iodine; it volatilizes at the ordinary temperature of the air. Water dissolves about $\frac{1}{13000}$ part. It is soluble in eighty parts of cold alcohol, and twelve of boiling alcohol. It is soluble in ether.

This substance has been used as an antiseptic and antimiasmatic. "Taken internally it produces all the effects of iodine, without any irritation, and has been given in doses ranging from one to seven grains. It has likewise been employed with asserted beneficial effect as an inhalation in diseases of the lungs, and externally in the form of suppositories and ointments."*

* Parrish.

Original Communications.

ON CERTAIN OF THE ACCIDENTS WHICH MAY FOLLOW VACCINATION.

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(*Concluded from page* 121.)

We have seen how formidable are the consequences which may follow the use of vaccine lymph that is unhealthy, or that has undergone a process of putrefactive decomposition; the progress of our investigation will show that disturbances of a very similar character may occur, even though the lymph be of the most unexceptionable nature. It is well known that the inflammatory process is often affected by various atmospheric influences; there are epidemic seasons in the course of which no wound, however slight, can be induced to heal kindly; and it has been remarked that in certain conditions of the system, conditions which may be either congenital or accidental, inflammations are prone to become asthenic and uncontrollable. If, under such conditions, the simplest incision with a clean instrument will not heal without extensive suppuration, or even sloughing, what may we not reasonably anticipate as the consequence of a poisoned wound? In his learned essay on the variolæ vaccineæ, Mr. Ceely stated (*Trans. of the Provinc. Med. and Surg. Soc.*, vol. viii., p. 345) that he had often observed the *irritable vesicle* produced by the action of vaccine virus "in strumous or erysipelatous habits, with light and fair complexions, thin and florid irritable skins, and a flimsy cuticle incapable of concealing the network of plethoric capillaries beneath, and where the smallest puncture produces a torrent of blood, and the mildest lymph proves a destructive poison." It was, probably, in constitutions of this class that the unfortunate results occurred which were described by Dr. Vandervoort in the *N. Y. Journal of Medicine* (1846, p. 11), and by Mr. Dendy (*Lancet*, 1837–8, vol. ii., p. 152) at a meeting of the London Medical Society. Mr. D. affirmed that he had seen three cases in which death followed the inflammatory action resulting from vaccination. Two of these cases had been vaccinated by a Dr. Walker; and, having seen several of that gentleman's patients "with the blood flowing in a perfect stream from the arm after vaccination," and having remarked that an "erythematous inflammation" often followed in such cases, Mr. D. was of the opinion that when good Dr. Walker was pressed for time he was apt to vaccinate "most slovenly!" Dr. Vandervoort's patient was a child, of an apparently healthy constitution, which had been vaccinated three or four days previously, with a view to arrest the whooping-cough. Hæmorrhage had occurred at the point of vaccination, and was much increased during the paroxysms of coughing. This continued for three weeks, and the child died in a state of perfect anæmia.*

Referring to his experiments with vaccine lymph removed from the cow, Mr. Ceely continues (p. 349):—"It too often happens, especially in subjects with thin and vascular skins, that the vesicles burst, or are easily broken, during the height or about the decline of the areola; and if the subject be of a strumous or erysipelatous diathesis, of full habit, and possess an irritable skin, secondary inflammation is set up and becomes more diffused and deeper seated, the corium is destroyed completely, and a slough of the subjacent tissue is soon manifest; the surrounding integuments are deeply indurated, often a multitude of ecthymatous pustules are formed on the enlarged papillæ and on other parts of the skin, and abscesses in the cellular membrane and axillary glands ensue, causing proportional constitutional irritation." He adds (p. 416): "Spontaneous bursting did not often occur, excepting in those subjects possessing the before mentioned and well known obnoxious constitutional and dermic characteristics, *upon whom we must always use active lymph with some risk.*"

As the result of his studies, Mr. Ceely maintains that persons with a thick, smooth, clear skin, and a dark, healthy complexion, present vaccine vesicles which are least liable to accidental rupture, and are, consequently, less exposed to the risk of secondary inflammation.*

That peculiar atmospheric conditions have a tendency to provoke the occurrence of erysipelas is well illustrated by the first four observations recorded in the accompanying table. Vaccination was only the exciting cause of an unhealthy inflammation, to which every individual was, for the time being, predisposed. Mr. Chartres found this predisposition so strongly marked among the soldiers of the regiment to which he was attached that it became necessary to avoid every surgical operation, and even the punishment of flogging was suspended, on account of the erysipelatous inflammation which occurred whenever the cutaneous surface was injured.

* See also Dr. Carpenter's very interesting remarks on the predisposing causes of inflammation and disease. — *Principles of Human Physiology*, pp. 287-8, and p. 850.

TABLE OF CASES ILLUSTRATING SOME OF THE UNFORTUNATE CONSEQUENCES OF VACCINATION.

Record of Observations.	Reporter.	Age and Sex.	Date of Vaccination.	Result of Vaccination.	Duration of Symptoms.	Remarks.
I. Med and Phys. Journal, vol. xix., p. 453.	Dublin Cow-pock Institution.	Young children.	November, 1807.	Irregular vesiculation in many cases, with a tendency to ulceration after the seventh or eighth day.		This unhealthy tendency declared itself only in those cases which were vaccinated during the month of November.
II. Med. and Phys. Journal, vol. ii., p. 312.	Mr. Evans.		May and June.	During the prevalence of a long northeast wind, in May, there was much tendency to troublesome ulceration at the points of vaccination.		The same tendency declared itself in persons who were at the same time inoculated for small-pox.
III. Am. Journal of the Med. Sciences, vol. xx., p. 318, *et seq.*	Dr. Jackson.	Infant, 6 mos. old.	Winter, 1849–50.	Erysipelas appeared on the seventh day, extending over the whole upper extremity; an abscess formed in the axilla.	One month.	The winter and spring of 1849–50 were marked, in the vicinity of Boston (where these cases were observed), by the occurrence of a peculiar tendency to erysipelatous forms of inflammation. Small-pox was also unusually prevalent during the same season.
	"	"An old man."	"	The whole forearm became erysipelatous, but recovered speedily. The patient was an intemperate person.	A few days.	
	Dr. Cabot.	Male, 69 y'rs old.	"	Erysipelas appeared, the second day, and extended widely over the whole body, attended with profuse suppuration.	Two months.	
	Dr. Bigelow.	Male, 30 y'rs old.	"	Erysipelas appeared, the third day, extending rapidly over the greater part of the body, with typhoid symptoms and extensive sloughing upon the arm.	Two months.	
	"	Infant, 5 mos. old.	"	Erysipelas the ninth day, extending over the whole body, resulting fatally in a few days. Persons vaccinated from this arm, the eighth day, had perfect vesicles, without bad symptoms.	A few days.	
	Dr. Homans.	Male, 3 weeks old.	"	Erysipelas, the tenth day, involving the whole body; sloughing of the scrotum; abscesses formed at different points. Lymph taken from this arm, the eighth day, was in every case successful.	Three months.	
	Dr. Putnam.	Infant.	"	Erysipelas attacked the scalp, the fourth day; no other unfavorable symptoms appeared.	One week.	
	Dr. Channing.	Infant.	"	Erysipelas affecting arm, shoulder, and pectoral muscles. Child died "of obscure disease within the chest."		
IV. Dublin Medical Press, April 25, 1860.	Mr. Chartres.	Male, 18 y'rs old.	Oct. 10, 1859.	Erysipelas, the second day, followed by sloughing and hæmorrhage, necessitating amputation of the arm, forty-six days after vaccination.		An epidemic tendency to unhealthy inflammation was noticed in all the cases under observation at this time in the hospital.
V. Med. and Phys. Journal, vol. v., p. 162.	Mr. Maddock.	Infant, 6 mos. old.	Oct. 22, 1800.	Erysipelas, the ninth day, extending over the whole body, and terminating fatally on the twenty-sixth day after vaccination.	Seventeen days.	No apparent cause of abnormal symptoms.
	"	Infant.	Oct. 27, 1800.	Erysipelas, the ninth day, at the point of vaccination on the left arm. Two children vaccinated from this child's *right* arm, the ninth day, presented healthy vesicles, without unfavorable sequences.	Six weeks.	" " " "
VI. Med. and Phys. Journal, vol. vi., p. 131.	Mr. Clutterbuck.	Female, 7 w'ks old.	May 12, 1801.	Erysipelas, the ninth day, creeping gradually over the whole body, followed by anasarca of the lower extremities, terminating fatally	About four weeks.	This was a healthy child, vaccinated with healthy lymph.
VII. Ibid. vol. vi., p. 423.	Dr. Barry.	Female, 5 mos. old.	January.	Erysipelas, the twelfth day, extending over the body, followed by anasarca and abscesses.	Two months.	
VIII. N. Y. Med. Times, Nov. 1855, p. 43.	Dr. A. K. Gardner.	Male, 5 w'ks old.	Autumn, 1854.	Erysipelas, extending over the whole body, followed by sloughing of scrotum, formation of abscesses, etc.	Seven or eight months.	
IX. Boston Med. and Surgical Journal, Feb. 4, 1858.	Dr. Buck.	Infant.	March, 1857.	Erysipelas, the tenth day, extending rapidly and terminating fatally the eighteenth day after vaccination.	Eight days.	There were no other cases of erysipelas, nor any predisposition to that disease in the families to which these children belonged.
	"	Infant.	June 4, 1857.	Erysipelas the sixteenth day. Children vaccinated with matter taken the seventh and eighth day from these two cases, passed safely through the whole course of the vaccine disease.	One week.	
X. Am. Jour. of the Medical Sciences, vol. xx., p. 321.	Dr. Greene.	Male, 66 y'rs old.	January, 1846.	Pain and swelling the second day; erysipelas the seventh day, extending over arm and chest, terminating fatally, a little more than eight days from time of vaccination.	A few days.	
XI. Ibid. vol. xx., p. 96.	Dr. Buckingham.	Male, 25 y'rs old.	Aug. 28, 1849.	Febrile movement the fourth day; pain and swelling of right leg on eighth day, followed by similar successive symptoms in various parts of the body, terminating in a typhoid condition and death.	Three weeks.	The brother of this patient, vaccinated at the same time, with the same lymph, experienced no unusual consequences.

Of the cases recorded in this table, the greater number were children; of the six adults, two were between sixty and seventy years of age, one was described as "an old man," one was thirty, one was twenty-five, the sixth was eighteen years old. Of the seven children whose ages were mentioned, two were six months old, two were five months, one was seven weeks, one was five weeks, one was three weeks. The other cases were all young children. Seven cases proved fatal, being attacked with erysipelas on the ninth day in three instances, on the tenth day in one, on the eighth day in one, on the seventh day (preceded by pain and inflammation from the second day) in one, and in one case the time of the attack was not specified. Of the sixteen cases in which the date of the erysipelatous invasion was noticed, it occurred the second day after vaccination in two cases, the third day in two, the fourth day in two, the seventh day in one, the eighth day in one, the ninth day in four, the tenth day in two, the twelfth day in one, and as late as the sixteenth day in one individual. The children vaccinated at the Dublin Cowpock Institution in the month of November, 1807, manifested a tendency to ulceration of the pustule after the seventh or eighth day. Dr. Doepp, Physician to the Children's Hospital at St. Petersburgh, remarked (*Lancet*, 1836-7, vol. i., p. 851) that in a majority of the children who developed erysipelas after vaccination, the disease did not appear till the eighth, ninth, or tenth day, at which time, it will be remembered, the inflammatory process has reached the pyogenic stage, and seems most liable to unhealthy exacerbation. Of the twelve observations in which the season of the year was mentioned, two were made during the month of January, one in March, two in May, one in June, one in September, two in October, one in November; the cases observed by the Boston physicians occurred during the months of winter and spring; Dr. Gardner's case occurred in the autumn or winter; so that, excluding Mr. Evans' cases, which happened during the prevalence of a cold north-east wind in the month of May, only three unfavorably complicated cases were observed during the warmer half of the year.

A further consideration of this table indicates the improbability of the communication of erysipelas through the medium of vaccine lymph. Dr. Bigelow successfully vaccinated a number of persons with eighth day lymph from the arm of a child who, the next day, was attacked with erysipelas, which soon destroyed its life. Dr. Buck experienced no bad result from the use of lymph taken from the arm of a child who was afterwards attacked with erysipelas on the sixteenth day after vaccination. Dr. Homans was equally successful with lymph taken only two days before the appearance of erysipelas; and still more remarkable was the experience of Dr. Maddock, who successfully vaccinated two children with ninth day lymph from a vesicle upon the *right* arm of a child who at that very moment was developing erysipelas at a point of vaccination upon its left arm. It is, however, worthy of note, in this connexion, that Dr. J. L. Smith, of this city (*Am. Med. Times*, vol. ii., p. 401), has seen erysipelas occur in children who had been vaccinated with a scab which was formed upon a vaccine vesicle that had "passed through the usual stages, and presented the usual appearances," upon the arm of a child who suffered with diphtheritic inflammation of the throat during the course of the vaccine disease to which she was subjected. Two of these children presented symptoms of erysipelas within twenty-four hours after vaccination, but as the other cases were not attacked before the seventh day, it still remains a question whether the occurrence of the disease depended upon the character of the lymph which was employed, or whether it was excited by other causes more occult in their nature.

The age of the patient is a condition which exercises a certain degree of influence over the development of erysipelas after vaccination. Dr. Doepp found that the number of cases of post-vaccine erysipelas in the Children's Hospital was considerably diminished by deferring the time of vaccination from the seventh or eighth day after birth till the fourteenth day. A paper, contributed by Dr. Deslandes to the pages of the *Am. Medical Times* (vol. iii., p. 325), indicates a similar experience on the part of members of the Société Medicale des Hôpitaux de Paris.

It sometimes happens that the normal progress of the vaccine disease is disturbed by violence to the vesicle.* The results in such cases are usually in proportion to the injury, and in accordance with the constitution of the sufferer.

It has also been thought that the practice of making numerous punctures in vaccination has a tendency to produce excessive inflammation of the parts. Mr. Rees (*Lancet*, 1837, vol. i., p. 115) declared that he had seen "four infants destroyed by sloughing produced" in this manner; and at a recent meeting of the Obstetrical Society of London (*British Med. Journ.*, Dec. 5th, 1860, p. 985) Mr. Druitt exhibited two colored drawings, showing the effects of vaccination by scratching all over with ivory points a surface measuring one inch by three quarters: this whole surface had sloughed, leaving an enormous cicatrix. M. Legroux (*Am. Med. Times*, vol. iii., p. 326) finds that since he has made "only one puncture in each arm, he has never seen any accident which might be imputed to vaccination."

There has been much discussion regarding the degeneracy of vaccine virus. Some teachers maintain that it loses much of its protective power by transmission through a long series of individuals, while others claim that virus which has been traced in its course from person to person for a period of sixty years, is now as efficacious as when it was first employed. This is a question which cannot very easily be determined; but it is certain that the disturbances, produced by the use of a virus which has been newly derived from the cow, are generally much more marked than the effects which follow the use of a more perfectly *humanized* lymph. Vaccination was first practised in Hanover, A.D. 1799, by Mr. Stromeyer, with vaccine virus which had been sent from London by Dr. Pearson, and also with virus sent from Gloucester by Dr. Jenner. Stromeyer recorded his experience (*Med. and Phys. Journ.*, vol. iii., p. 471) in the following language:—"The London matter produces, frequently, an eruption of small pimples, but they disappear within a day or two at furthest. The Gloucester matter has never produced this effect here, but it frequently occasioned ulcerations of the inoculated part, of a tedious and long duration, which the former matter never did." From the writings of Dr. Jenner, we learn that the lymph which he was then accustomed to distribute was fresh lymph—often not more than three or four removes from the cow—because, residing at that time in a small country town, he found it difficult to preserve a supply of lymph without resorting to the cow. Drs. Woodville and Pearson, in their publications on the subject of vaccination, both testified to the diminished severity of inflammatory symptoms in proportion as the exciting cause became by successive transmissions removed from its original source. Mr. Estlin's experiments with new vaccine lymph (*Med. Gazette*, New Series, vol. iii., pp. 115, 709), show that the use of such virus produces more constitutional disturbance, deeper ulceration of the pustules, more extended inflammation—even in several cases producing axillary absceses—and more general cutaneous affections

* In the *Med. and Phys. Journal* (vol. xvi., p. 323) is recorded the history of a child, vaccinated by an ignorant person, who, on the eighth day, picked the vesicle in several places, totally removed the cuticle from its surface, and "wiped it out" with a rag, causing the part to bleed. On the tenth day the inflamed areola was as large as a crown piece. Extensive erysipelas followed, and it was several weeks before the child recovered. Mr. Smart (*Med. and Phys. Journal*, vol. xvii., p. 156) states that he vaccinated a healthy child, four months old, and that on the fifth or sixth day the vesicle was violently squeezed and broken. On the seventh day the arm was much inflamed. Erysipelas gradually extended over the arm and body, and the child died on the twenty-ninth day. The *Lancet*, Sept. 15, 1860, details the case of a woman thirty-five years old, a hospital patient, who had been vaccinated early in March, 1860. The vaccine vesicle was well developed, but when it had scabbed over she received a violent blow upon the arm, which was followed by severe inflammation. Abscesses formed in various parts of the body; the patient sank, and died the 23d of April. Vaccination was certainly not in fault in this case.

than occurs after the employment of ordinary virus. The observations of Mr. Ceeley (*Trans. of Provinc. Med. and Surg. Society*, vol. viii.) are to the same effect. He goes so far (p. 350) as to recommend a course of treatment preliminary to the vaccination of persons of an objectionable diathesis—a course similar to that in vogue with the small-pox inoculators of former days—"for," he adds, "it is a long time before some individuals can be safely vaccinated with this active lymph, even though taken from the mildest vesicle."*

The practical conclusions which may be drawn from the preceding observations are so apparent that they scarcely need a formal statement. That the lymph used in vaccination must be pure and in a state of perfect preservation, may be considered self-evident. The scab should never be used when liquid lymph can be procured from perfect vesicles in which the stage of pyogenic inflammation has not been reached, for the composition of every scab is, necessarily, more or less affected by the processes of pyogenesis. The subjects from whom lymph is derived, must be healthy and free from syphilitic taint. The virus should be used when fresh from the generative vesicle, or, if that be impossible, it must be preserved in such a manner that heat and moisture can have no effect upon its organization. If a virus thus elaborated be introduced into the circulation of a healthy individual, sufficiently advanced in age, during salubrious weather, at a season when epidemic influences are unknown, the vaccine disease may be expected to pass through its normal course, occasioning no great constitutional or local disturbance: when such disturbances do arise, it will not often be found difficult to trace them to one or more of the causes which have been set forth in the preceding pages.

CIRRHOSIS OF THE LIVER;

ENLARGED SPLEEN, AND ABNORMAL DISTRIBUTION OF THE VESSELS BETWEEN IT AND THE STOMACH.

By M. M. MARSH, M.D.

MONTPELIER, VT.

The motive to report this case, is not so much on account of the character, extent, or termination of the disease, as the unusual anatomical connexion which existed between the spleen and stomach.

The patient, J. S., aged twenty, had, for the last three years, been engaged in literary pursuits; was highly intelligent, and uncommonly active. His habits were strictly temperate; countenance animated and florid; and though frail in form, he was in the possession of uniformly good health, with the exception of a slight chronic diarrhœa, dating from a mild typhoid fever, two years previous. For a few weeks previous to his death, he had not exhibited his usual vivacity, which was, however, ascribed to the undue mental labor his duties as teacher imposed.

On Tuesday, Jan. 28th, I was called to see him. About eighteen hours previous, he had been engaged in violent athletic exercise, and soon thereafter vomited blood freely, and again within the hour. He was then removed to his home, and all the blood afterwards vomited carefully preserved. Appropriate means were employed to arrest the hæmorrhage: a horizontal position, external warmth, ice to mitigate the excessive thirst, and the exhibition of gallic acid, and other remedies. All, however, seemed unavailing to control the attacks, which regularly returned about every second hour, and without any previous sickness at the stomach. Instantly he would turn his head to one side (for from the first he was prostrate and unable to rise or converse), and then would flow from the mouth, and without much effort, from a pint to a pint and a half of unmixed florid blood. Nearly eighteen hours after the attack I was called, vomiting having occurred seven or eight times. I found him but partially conscious of objects; no radial, and but slight axillary pulsation; and presenting the appearance of one from whom life has just departed. In turning him to inspect the chest and abdomen, he again vomited nearly one pint of florid blood. The physical examination revealed, simply, an enlarged spleen. As he swallowed readily, thirty minims spts. terebinth. were ordered, in a solution of starch, every half hour, and until taken five times. In the interim vomiting recurred once, and ceased altogether: and, as was supposed, from the supply failing, and not from the agencies employed to arrest it. An enema, containing tannic acid, was ordered to prevent further exhaustion from evacuation of the bowels. After a few hours a very feeble pulsation returned to the wrist; he appeared to comprehend circumstances, but manifested no desire, except for drinks, as his thirst was intolerable. He continued in this semi-lifeless condition from Thursday to Sunday afternoon; with the lower limbs apparently destitute of circulation, and cold except from external warmth; the pulse at the wrist at times scarcely perceptible; and except when tormented by thirst, presenting more the appearance of the cadaver than the living subject. On the evening of Sunday, the bowels were suddenly and copiously evacuated, and the motion was repeated within twenty minutes without the apparent consciousness of the patient. The evacuations consisted almost entirely of coagulated blood. Between two and three hours from the first evacuation, the patient looking anxiously towards a wash-bowl, it was passed, and he vomited nearly a pint and a half of pure florid blood, and shortly expired.

I ought to have stated that after the cessation of vomiting, the serous portion was nearly all poured from the vessel in which the separate quantities of blood had been preserved (except at the two times which occurred before he was taken to his home), and the remaining portion of blood carefully measured, amounting to *nine pints and* f. 3 iv.

An autopsy was held twelve hours subsequently. The head was not opened. The lungs normal. The heart, in size, consistence, and aspect, natural. Its right side empty: the left ventricle containing nearly 3 iv. of material resembling finely comminuted coffee grounds. The ascending aorta normal, but its descending portion near the diaphragm began gradually to expand: so that near the splenic artery its diameter was at least one-fourth greater than at the superior thoracic portion. The aorta, throughout its whole extent, but especially the portion between the diaphragm and splenic artery, was softened. It could be torn by the fingers, but under the microscope presented no atheromatous deposit. The intestines, except the lower third of the duodenum, which was too much softened to admit removal, were healthy. The bladder exhibited its usual appearance: also the right kidney; the left simply hypertrophied, otherwise normal. The liver bilobed, and so completely cirrhosed, that within, or on its surface, not three lines of normal structure anywhere were seen between its nodules. The circulation throughout the liver appears to have been nearly obstructed: and still the gall-bladder was filled with apparently healthy bile. This viscus was less than the natural size; its weight three pounds and seven ounces. The splenic artery so dilated that the thumb is readily admitted. One-fourth its length, from its distribution, it sent a branch to an exact duplicate spleen, about the size of the healthy organ, which was suspended from the upper and larger spleen by membrane, as the liver is suspended from the diaphragm. The weight of the superior spleen was fifty-eight ounces; healthy in appearance, and sending, in the place of the usual distribution, two parallel vessels to the stomach, each with a diameter equal to the enlarged splenic artery, and readily admitting the thumb, and apparently penetrating the coats of the stomach. These vessels were so softened that a dissection of them could not be made; but on opening the stomach (which in all respects appeared healthy) opposite the connexion of

* See also the history (*Lancet*, 1858-9, vol. ii., p. 689) of a child, six months old, vaccinated with lymph which had been recently obtained from the cow. The progress of the vesicle was very rapid, and was attended with great inflammation, which continued for a fortnight before terminating in a slough.

these vessels with that organ, its mucous and a portion of its muscular coats were ruptured, which on being washed exhibited torn muscular fibre, for more than one inch in extent, and entirely between the connexion of these vessels with the stomach; its peritoneal coat was entire.

These were the conditions a careful dissection presented. The case furnishes points of remarkable interest. 1st, During life the liver presented no evidence of diseased structure or function; 2d, Softening of a portion of the arterial system, without observable fatty degeneration; 3d, Though the spleen varies very much in form and size, I have not noticed any record of absolutely duplicate spleen; and 4th, The very unusual (and as far as my knowledge extends) unknown fact of two immense vessels in place of the vasa brevia.

There are other points of perhaps minor interest. During the autopsy, no blood, and scarcely any liquid was observed. The blood previously lost, and which must have represented nearly the amount of circulating fluid at any one time, could not have been less than thirteen pounds, including that portion discharged subsequently from the bowels. The patient weighed 126 pounds.

The question arises, Why this regularity in vomiting? and whence the blood? If from the two vessels mentioned, acting as conduits, what was their distribution relative to the different coats of the stomach, and the anatomical condition of their extremities previous to the fatal attack? And in what consisted the immediate lesion leading to the fatal issue?

Reports of Hospitals.

NEW YORK HOSPITAL.

INJURIES OF THE HEAD.

THEIR NATURE AND TREATMENT, WITH ILLUSTRATIVE CASES,

By D. B. St. John Roosa, M.D., and James L. Little, M.D.,
Resident Surgeons.

(*Continued from page* 124.)

FRACTURE OF THE BASE OF THE SKULL.

I.—Mike Walk, æt. 30, Ireland, laborer, admitted July 13, 1861. (Dr. Peters, attending surgeon.) Patient was brought into the hospital, having received his injuries in an unknown manner. He was insensible, pupils contracted; there was stertorous breathing, and hæmorrhage from the ear. All attempts to bring on reaction proved unsuccessful, and four hours after admission he died. No autopsy was permitted by the coroner.

II.—Ellen Hickey, æt. 50, Ireland, admitted July 15, 1861. (Dr. Peters, attending surgeon.) Patient fell out of a fourth story window, and was immediately brought to the hospital. *Symptoms.*—Profound stupor, stertorous breathing, surface cold, pulseless at the wrist, bleeding from the left ear. On examination an extensive fracture of the skull, involving the frontal, temporal, parietal, and occipital bones, and probably extending to the base, was found. Patient continued in this condition without rallying for about twenty-four hours, when she died. No autopsy was allowed.

III.—Bridget McCarthy, æt. 50, Ireland, widow, admitted Aug. 1, 1861. (Dr. Parker, attending surgeon.) Patient fell down stairs, sustaining a compound fracture of the left radius near its lower extremity; wound small, and on inner side of bone. She was also suffering from concussion, and hæmorrhage from the right ear. Patient rallied after the injury. There was slight oozing of blood from the ear for three or four days, which gradually gave place to a thin, yellowish fluid. This discharge was for the first ten days quite free, amounting to from ℥ ss. to ℥ j. per diem, as near as could be judged. About ten days after, the muscles of the right side of the face became paralysed, the tongue in protrusion being drawn to the opposite side. Patient complained of but little pain in the head; the hearing of the right ear was destroyed. The fracture of the radius was treated in the usual manner; and although there was considerable suppuration about the wound, yet it did well, and patient was discharged seven weeks after the accident, union being pretty firm. The paralysis of face continued. This patient was seen three months after the injury; she complained of dizziness and pain in the head; she had suffered from this ever since her discharge.

Remarks.—The above case presented all the symptoms of fracture of the base of the skull: 1. The bleeding from the ear at time of injury. This of course by itself cannot be considered as a sign of much importance, but, when followed by 2. A discharge of a thin, watery fluid, it is considered by authors as pathognomonic of this kind of fracture, and these, when associated with paralysis of the fifth pair of nerves, seem to me conclusive evidences of fracture involving the petrous portion of the temporal bone. This is the only case of recovery which has occurred during a long period, in which the hæmorrhage from the ear gave place to a serous discharge. Robert states that all cases in which this symptom is present, "invariably terminate fatally." Erichsen, however, states that he has seen several cases recover in which this symptom was present—one a patient fifty-eight years of age.

GUN-SHOT WOUNDS OF THE HEAD.

I.—A boy, æt. 17, admitted Nov. 10, 1861 (Dr. Watson), was shot by a pistol loaded with slugs, contents entering face and head, the assailant about six feet distant. Seen about one hour after, not suffering markedly from shock. A wound found the size of a three-cent-piece situated an inch above the external canthus of right eye; another about same size a little to the right of the median line in forehead; two others in the face. Symptoms of compression supervened twenty-four hours after. Water dressings had been the treatment up to this time: the first wound was then enlarged, also the fracture of the bones by the rongeur, and slug removed where it was pressing on the dura mater. The second ball was found to have penetrated the brain, and was not followed. Symptoms were only alleviated for a time, and the patient died seven days after in a comatose condition. Post-mortem showed considerable encephalitis, and a slug buried in an abscess of the middle lobe of the left side; effusion in ventricles considerable; other organs healthy.

II.—A man, æt. 21, was admitted on the 6th of April (Dr. Markoe). While sitting at a table was shot by an assailant, who stood about six feet from him. One hour after there was no shock, and pulse was a little frequent. The wound, contused and of the size of a pea, was in frontal region, two inches from inner canthus of right eye, in a direction immediately upwards. The ball was found flattened against the bone, and as large as a sixpence; it was removed, and water dressings applied; no fracture detected. On the next day had a slight attack of erysipelas of the face, which lasted for three days; in other respects did well; suppuration moderate; pulse ranged from 64 to 76. Four days after began to complain of pain in his head, supra-orbital. Pain disappeared in three days, he having been cupped and purged. Pulse from 64 to 72. Ten days after had a slight chill; two more on the next day, and pulse ran up to 104; no pain in the head; cough appeared eleven days after admission; chills continued once or twice in twenty-four hours; takes quinine and stimulants; pulse about 120. These chills inaugurated pneumonia. Patient's strength failed him; intellect was unobscured within a few hours of death. Died on the nineteenth day. Post-mortem showed a fissured fracture about one and three-quarters inch in length. A slight septum of healthy brain substance intervened between external wound and an abscess containing ʒ ij. of pus. No communication between fracture and abscess. Dura mater at that point disorganized; no other lesion of brain. Both lungs were inflamed.

III.—A man, æt. 21, Ireland, admitted Jan. 1, 1862 (Dr. Watson), was shot by a pistol in the hands of an

assailant, supposed to have been eight or ten feet distant. As found three-quarters of an hour after, was semi-conscious, surface cool; pupils sluggish and equal; pulse hurried and weak. There was a lacerated wound on superciliary ridge about two inches from median line; eye closed, eyeball intact, lid œdematous; a minute opening also found in the skull leading to cerebral cavity. Water dressings. Patient survived nine days, being semi-comatose until the 6th, when convulsions occurred; pulse became accelerated, having been about 60 from morning after injury; skin hot; was freely purged from the beginning; had no hemiplegia; coma became more profound, and he died.

Post-Mortem.—Purulent matter beneath external opening in fibres of temporal muscle; small slugs; fracture of frontal bone just beneath the wound circular, and about one-eighth of an inch in diameter; considerable meningitis and encephalitis; a cavity in anterior lobe of right hemisphere, about one and a quarter inch in depth, irregular edges, free from purulent matter or false membrane; clot of blood in each lateral ventricle; small slug in cerebral substance just above right lateral ventricle. Other organs healthy.

(*To be Continued.*)

Reports of Societies.

SURGICAL SECTION.

STATED MEETING, Jan. 24, 1862.

DR. JAMES R. WOOD, CHAIRMAN.

DISCUSSION OF DR. GEO. K. SMITH'S PAPER ON THE RELATION OF THE INSERTION OF THE CAPSULAR LIGAMENT OF THE HIP-JOINT TO INTRA-CAPSULAR FRACTURE.

(*Continued from page* 126.)

PROF. POST states, that in order to demonstrate the truth of my fifth proposition, "it would be necessary to present a series of preparations taken from patients who had survived intra-capsular fractures for variable but known periods, antecedent to union, and to show that there was a progressive shortening of the neck before the occurrence of union." It appears to me that it would be almost impossible to obtain such a series of preparations, since they must be procured immediately after union, else Prof. Post would claim that this shortening of the neck by absorption did not occur till after the fragments were united. They cannot be obtained till after the death of the patient, and it will seldom happen that a patient, whose vital powers are sufficient to secure bony union of a fracture of the femur, will die immediately after union has occurred. Again, if it were possible to procure such a series of preparations, they would not be likely to illustrate "a progressive absorption of the neck," since the whole of the neck is, in some cases, removed in a few weeks or months, while in other cases as many years will elapse with a portion of the neck still remaining. The following extract from Mr. Howship's report of "cases of fracture of the neck of the femur,"* will exhibit this fact: "1. Age seventy-six, lived three weeks after the fracture, neck shortened half an inch, no union. 2. Age seventy-five, lived two months after the fracture, neck shortened three-quarters of an inch, slight fibrous union. 3. Age seventy-eight, lived five months after the fracture, neck still undergoing absorption. 4. Age sixty-six, lived five months after the fracture, the neck completely removed by absorption; firm fibrous union. 5. Age seventy-nine, lived ten months after the fracture, neck nearly absorbed, with no attempt at union. 6. Age seventy-nine, lived twenty-two months after the fracture, neck entirely gone, no union. 7. Age seventy, lived eight years after the fracture, neck nearly absorbed, firm fibrous union. 8. Age fifty, lived fourteen years after the fracture, neck about half removed by absorption, the fragments not united."

In the last case the patient was not as old by many years as either of the patients mentioned in the preceding cases, and this fact would suggest a more abundant nutrition of the fragments, which accounts, to a great degree, for the slower progress of their absorption. Since the last meeting of the Section I received a letter from Dr. Asa Horr, of Dubuque, Iowa, informing me that he had lately obtained a specimen of fracture of the neck of the femur. He gave a brief history of the case, with a description of the specimen, and said, that, if I should "regard the specimen as of any value to science," he would forward it to me on receipt of my reply. Through his kindness I am enabled to exhibit the specimen this evening. It is from a patient fifty-eight years of age, who died a little more than a year after the occurrence of the fracture. The fragments were not united. I have macerated the specimen, and you will observe that all of that portion of the neck attached to the head of the bone has been removed by absorption, while a portion of the neck, about half an inch in length, still remains attached to the shaft. The specimen is interesting as a further illustration of the fact, that absorption after fracture of the neck does not proceed with any regularity, a given distance in a given length of time, but generally progresses with greatest rapidity in patients who suffer from this fracture at an advanced period of life, when the elements of nutrition are very imperfectly supplied.

It appears to me that the opinion of Prof. Post that "the union takes place in the first instance, and that the interstitial absorption is a subsequent event," is one which necessarily involves the disastrous consequence of disunion of the fragments, as one of the first results of such absorption; since parts newly formed are more readily attacked by absorption than those of longer standing; and we must therefore expect that the callus by which the fragments were united will be first attacked, and that its absorption will result in disunion, long before the whole of the neck shall have been removed. The following is interesting as an illustration of this point. "The callus is subject to *softening*, disintegration, and absorption, if not also to the fatty degeneration. . . . Occasionally the absorption can be distinctly traced to the inordinate use of mercury, carried to profuse salivation; or it may be owing to a syphilitic taint of the system, especially when this affection has reached its third stage, in which the bones and periosteum are so constantly, and often so seriously involved. But the most common cause, perhaps, of all, is an impoverished and diseased state of the blood, from the use of improper food, and especially from the want of a sufficient quantity of fresh vegetables and subacid fruits. The influence of ill health arising from this cause upon the condition of the callus, was strikingly exemplified in Lord Anson's voyage to the Pacific Ocean, in which many of the crew suffered severely from scurvy. It was noticed that those who had formerly had fractures were attacked with absorption of the callus, speedily terminating in disunion of the ends of the broken bone. Cicatrices, whether the result of the healing of wounds or of ulcers, experienced a similar fate, the parts breaking out into open sores, remarkably pale, languid, flabby, and difficult of cure. Similar effects are occasionally observed to follow attacks of typhoid fever and anæmic states of the system, however engendered."*

Prof. Post further states:—"The sixth proposition seems to me to involve errors, or at least unsustained hypotheses, more glaring than that which is objected to in the fifth proposition. The language which is employed by Dr. Smith in the sixth proposition, seems to convey the idea that the main obstacle to bony union in intra-capsular fracture is to be found in the condition of the fragment connected with the shaft of the bone, and that when the portion of the neck between the fracture and the shaft has been absorbed, the obstacle to bony union is thus removed." I confess that I am unable to see how the above inference can fairly be drawn from the language used. The following is the sixth proposition:—Under favorable circumstances fractures of the neck of the femur, external to the capsule, unite rea-

* Medico-Chirurgical Review (New Series), vol. xxiv., p. 102.

* Gross's System of Surgery, 1st edition, vol. ii., p. 145.

dily by bone; so also do fractures which are partly within and partly without the capsule, and it is highly probable that fractures within the capsule, which are followed by absorption, are sometimes united by bone, after the process of absorption has reached a point external to the normal capsule where bony material is supplied; but this, if it ever does occur, can never be proven; for if the line of union be partly without the normal capsule, it is impossible to determine that the fracture was entirely within it, and we can never be positive that bony union of intra-capsular fracture has occurred, until a specimen is presented in which the line of union is found to be entirely included by the normal capsule.

It is well known that bony union is of frequent occurrence in fractures external to the capsular ligament; but it appears to me that we are yet without positive proof that bony union has ever taken place entirely within the normal capsule. Numerous specimens have been exhibited as illustrations of such union, but in the great majority of these specimens the line of union is found to be within the capsule on the anterior surface of the neck, and external to the capsule on its posterior surface, with a portion of the neck still remaining attached to the shaft. Prof. Mussey's cases are examples of this kind, and Prof. Parker's specimens illustrate the same point. These specimens represent, without doubt, one or the other of two conditions; there has been either bony union of a fracture partly within and partly without the capsule, in which the shortening was mainly at the expense of the fragment attached to the head; or, bony union of the fracture which occurred entirely within the capsule, in which a union did not take place until absorption had reached a point which was external to the insertion of the capsule on the posterior surface of the neck; and it is impossible to determine the class to which either of the given specimens may belong. The posterior insertion of the capsule is usually near the middle of the neck, and a transverse fracture a little external to this point will be within the capsule on the anterior surface of the neck, and without the capsule on its posterior surface. It is plainly indicated in the sixth proposition that such a fracture is, under favorable circumstances, sometimes united by bone; also that a fracture at any point between this line and the shaft of the bone is united in like manner, and we are at a loss, therefore, to determine how it is that, "The language which is employed in the sixth proposition seems to convey the idea that the main obstacle to bony union in intra-capsular fracture is to be found in the condition of the fragment connected with the shaft of the bone, and that when the portion of the neck between the fracture and the shaft has been absorbed, the obstacle to bony union is thus removed."

Prof. Post states: "I conceive the principal obstacles to bony union in intra-capsular fractures to be found in the condition of the fragment connected with the head, which having no supply of blood-vessels except those which are conveyed to it by the ligamentum teres, does not receive sufficient nourishment to secure its union by bone with the other fragment."

Many reasons have been given for the constant failure of bony union within the capsule, but it appears to me that none have been given which are altogether satisfactory. It is true that there is a want of due nutrition of the fragments in patients who meet with this fracture at an advanced period of life; but we find the same failure to unite within the capsule, if a patient is the subject of this fracture in youth or middle age. In old age the function of nutrition is but imperfectly performed, and the weight of the body is, in consequence, gradually diminished by absorption, each of the different tissues being more or less affected by the slow decay; and it has been noticed that, for some reason which has not yet been fully explained, the neck of the femur is more seriously affected by this process than other parts of the skeleton. In this fact we see the reason why a fracture of the neck of the femur which is the result of a severe injury, and is of the rarest occurrence in youth, is frequently met with in old age, and often as the result of a most trivial injury. This atrophy or absorption of the neck is then the exciting cause of the fracture, and its progress after the fracture is seldom, if ever, arrested until a great part or even the whole of the neck has been removed. Malgaigne holds that the destructive absorption of the neck, which follows a fracture within the capsule, is incompatible with bony union. After a careful examination of the reports of post-mortem examinations of fractures within the capsule, it appears to me that the materials provided by nature for the uniting callus in this situation are in many cases entirely removed by absorption, leaving no appearance of an attempt at union; and that in those cases in which the callus is not thus removed, it is arrested in its development, forming in some instances a kind of semi-cartilaginous material, rounding off the extremities of the fragments, and in others, a firm fibrous union which does not become fully developed into bone. Sir Astley Cooper states that in recent cases the capsule is found to be distended "with a mixture of serum, synovial fluid, and blood, which is produced by the inflammatory process, and becomes absorbed when the irritation in the part subsides. I do not know the exact period at which this change takes place, but I have seen it in the recent state of the injury."*

With regard to the new classification of fractures of the neck proposed by Prof. Post, it seems to me that it will render the "vexed question of osseous union within the capsule," more difficult of solution than it will be with the classification now in use. He proposes "to make a new classification of fractures of the cervix femoris, dividing them into two classes, viz. fractures between the caput femoris and the inter-trochanteric lines, and fractures at the inter-trochanteric lines extending more or less into the shaft of the bone. I propose to call the fractures of the first class *intra-cervical*, and those of the second class *extra-cervical*. I think that these two classes of fractures will be found to correspond very nearly with those which have hitherto been described as intra-capsular and extra-capsular."

He divides "*fractures of the cervix* into two classes;" but the class of intra-cervical fractures, representing fractures at any point between the head of the bone and the inter-trochanteric lines, includes all possible fractures of the cervix, and hence his extra-cervical fractures cannot properly be spoken of as fractures of the cervix, and do not therefore correspond in any degree with fractures hitherto described as extra-capsular, in which the line of fracture traverses the portion of the cervix included between the insertion of the capsule and the inter-trochanteric lines. The greatest objection to the classification is found in the fact that an *intra-cervical* fracture, which Professor Post thinks will be found to correspond very nearly with an *intra-capsular* fracture, may be either an *intra-capsular* fracture, an *extra-capsular* fracture, or a fracture partly within and partly without the capsule. This fact is important when we consider that these several fractures included under the name of *intra-cervical*, differ widely from each other, bony union being of frequent occurrence in a fracture external to the capsule, occasionally seen in a fracture partly within and partly without the capsule, while it has not yet been satisfactorily demonstrated that bony union has ever occurred entirely within the capsule. It is highly important, both in a scientific and a medico-legal point of view, to know whether we can ever expect bony union of a fracture entirely within the capsule. If not, the surgeon who faithfully performs his duty, and fails to secure bony union of this fracture, can summon to his defence, when unjustly arraigned for malpractice, the scientific fact that a fracture within the capsule is never united by bone. Professor Post states that "in intra-cervical fractures bony union very rarely occurs," and he tells us that an intra-cervical fracture will be found to correspond very nearly with an intra-capsular fracture. If from this we are to

* Cooper on Dislocations and Fractures of the Joints, p. 145.

understand that bony union of an intra-capsular fracture does occasionally occur, we think that he requires us to admit as a *fact* that which surgeons have labored for fifty or a hundred years and failed to prove. I do not deny the possibility of bony union within the capsule, but simply think that the evidence furnished in proof of such union is not sufficient to establish it as a fact, and that further investigation is needed in this direction.

Progress of Medical Science.

PREPARED BY E. H. JANES, M.D.

ON THE IMMEDIATE TREATMENT OF STRICTURE OF THE URETHRA.

The London *Med. Times and Gazette* contains an article on this subject by Mr. Holt of the Westminster Hospital, in which he describes a method of treatment for the immediate dilatation and cure of stricture. The unsatisfactory nature of the prevailing methods of treating this complaint, and the tediousness of ordinary dilatation, and the certainty of a return of the stricture, induced him to adopt a more energetic mode of treatment, and about seven years ago he brought to the notice of the profession a new "stricture dilator," by means of which dilatation was effected by graduated tubes passed between the blades of the instrument. This method being attended more or less by "stricture fever," he at length determined to split the stricture by passing the largest sized tube at once, thus enabling the urethra to receive its full sized catheter. The instrument he now describes "consists of two grooved blades fixed in a divided handle, and containing between them a wire welded to their points, and on this wire a tube (which, when introduced between the blades, corresponds to the natural capacity of the urethra), is quickly passed, and thus ruptures or splits the obstruction." This forcible distension affects only the morbid obstruction, leaving the healthy portion of the canal undisturbed; hence, we have none of those serious complications which often accompany other modes of treatment. After the operation the water is drawn off, and the patient left for an interval of two days before the catheter is again used, when one of the same diameter as that used at the time of the operation is again passed, and its use continued, at first on alternate days, and afterwards at longer intervals. He reports a number of interesting cases, from which he states the following conclusions:—"1. The operation is of the most simple kind, and any one who can pass a bougie through a difficult stricture is competent to perform it. 2. It is not attended with hæmorrhage, infiltration of urine, abscess, or any serious local mischief. 3. In a majority of instances the relief is immediate. 4. The occurrence of rigors or any other constitutional disturbance is very rare, and the patient is seldom confined to bed longer than from twelve to twenty-four hours. 5. The urethra is immediately made permeable by a catheter of full size, which may be ever afterwards passed at discretion. 6. This method is available in every kind of stricture where a canula of any size can reach the bladder. 7. When the after treatment is judicious and attentive, the full capacity of the passage is always maintained. 8. In all cases of neglected treatment the stricture yields to this method more promptly than to any other. 9. It being impossible that any but the diseased tissue can be divided, the splitting of the stricture has a decided advantage over any cutting operation. 10. And to sum up the great advantages in one proposition, the process is facile, speedy, prompt in effects, and free from every danger, immediate or remote. The course of general treatment will naturally vary, according to the kind of obstruction, the number of strictures, and the occasional complications of contracted bladder, enlarged prostate, fistulæ in perinæo, false passage," etc.

Christopher Heath, Esq., surgeon to the West London Hospital, etc., reports in the *Lancet* some cases of stricture treated by this method. The first case reported presented a very dense cartilaginous stricture through which with considerable difficulty he introduced No. 00 silver catheter (two sizes smaller than the ordinary No. 1). Another stricture was found at the bulb which gave some trouble; but this was also overcome, the instrument entered the bladder, and was tied in. The size of the instrument was increased each day until No. 4 was passed, when the patient being brought under the influence of chloroform, Mr. Holt's dilator (small size) was passed into the bladder, and No. 4 tube introduced. This being withdrawn, he was enabled to pass the full sized dilator while closed, and introduce No. 10 tube, which required some considerable force, owing to the density of the stricture. The dilator being withdrawn, a No. 10 silver catheter was readily passed, the bladder evacuated, the instrument withdrawn, and the patient ordered to take half a drachm of tincture of opium. Since then he had no trouble in passing No. 10, and the patient continued to improve until a fresh gonorrhœa again brought him under the surgeon's care. At this time there was no stricture. In the other cases reported, much the same course was pursued. The writer thinks that this rapid and effectual method of treating the stricture has not attracted that attention in the profession which the exceedingly favorable results would justify.

THE APPLICATION OF LEECHES IN THE TREATMENT OF UTERINE INFLAMMATION.

Dr. Tilt advocates (*Lancet*) the application of leeches directly to the inflamed part, by means of the speculum, as more likely to reduce the characteristic phenomena of inflammation, than the method recently advocated by Becquerel, who prefers their application to the thighs, or venesection. Dr. T. says: "By applying leeches to the womb, we either seek—1st. To reduce inflammation. 2d. To reduce congestion, and promote absorption. 3d. To increase congestion, and determine menstruation." Each of these effects is obtained in some proportion to the number of leeches employed. To relieve inflammation we should apply a sufficient number, otherwise we shall congest, rather than relieve the womb. The number should also correspond to the size of the speculum, for if they have not sufficient room some will not only refuse to bite, but will interfere with those that have taken. He never applies more than four large ones through a moderate-sized speculum, more than six by a large, and more than two by a small one. If a small speculum is used, he advises small leeches, as the loss of blood depends less on the size of the leeches than on the number of leech bites. As an emmenagogue, leeches should be applied in a small number—two or three—when the menstruation is due, and repeated every month. We thus determine the blood current, and teach the womb to resume a forgotten habit. He does not apply leeches in those cases of inflammation of the neck constituted by uterine catarrh, but would advise them in deep-seated ulceration on a hard or soft hypertrophic basis, where seven or eight leeches may be applied and repeated several times just before or after menstruation. In internal metritis, which he believes is a much more frequent disease than is supposed, and forms the pathological condition in many cases of dysmenorrhœa, he advises to leech the womb, just before, and, if necessary, just after, the menstrual flow, the practitioner determining the number suitable to each case, being guided more by the inflammatory nature of the complaint than by the strength of the patient. He has sometimes found the best effects to follow this course, even in weak and anæmic patients. In hæmatocele or hæmatic collections of blood in the pelvis, he agrees with Dr. Bernutz, that the reabsorption is greatly promoted by two or three applications at three or four days' interval, and also at the first sign of menstruation. He considers them counter-indicated by very acute inflammation, and when the vagina is inflamed so as to make a digital examination painful. In these cases, he first applies leeches to the inner part of the thighs, and orders emollient injections to the vagina, which will soon reduce the inflammation sufficiently to allow the

application of leeches. They should not be applied in cancerous or syphilitic affections of the womb, for fear each leech bite should become an ulcer. The same may be said of those cases in which the inflammation is characterized by the production of diphtherial membranes.

It is well to state here that in the summary of Dr. Tilts' article on uterine exfoliation, published on page 41, ninth line from bottom, an error in punctuation renders the meaning of a sentence obscure. It should read—"with the external use of mercurial ointment and extract of belladonna, and the iodide of potassium to be taken in a compound infusion of gentian."

American Medical Times.

SATURDAY, MARCH 8, 1862.

A CAUSE OF PROFESSIONAL IGNORANCE.

Often in reported cases mention is made of an "intelligent practitioner" who was called in an emergency, or was in some other way brought in contact with the patient. This term, now so often used as expressive of the qualifications of a particular physician, has more significance attached to it than one would at first be prepared to admit. Not every physician who claims the title has the right to the appellation of an intelligent one. This humiliating statement, we are sorry to say, can be corroborated by instances in every particular medical community. The existence of this class can be accounted for in a very great degree by the defective preliminary education so commonly met with among our students of medicine, rendering them altogether unfit for the proper elucidation of those abstruse points with which the science of the healing art abounds. Besides this, we have another very fruitful source of incompetency and ignorance, in the want of sufficiently rigid examinations by many of our medical colleges. The ordeal of the "Green room" is too often passed by the unqualified student without difficulty, and the physician, thus prematurely made and titled by law, claims what he considers his rightful rank. To these points, however, the attention of the profession has been frequently enough called, and no one doubts the necessity of a thorough reform in the whole matter of medical education. So much for the foundation which the profession has to work upon.

We wish at this time, in connexion with the subject under consideration, to consider a very fruitful source of ignorance in our profession, and one which is important as applying equally to the educated and the illiterate, and that has reference to the want of a habit of systematic reading. It is indeed surprising to find how few physicians are given to reading anything that treats of medical subjects; even those who have every seeming facility for improvement, in the shape of good libraries, scarcely ever have a disposition to look further into a new book than the heads of its chapters. In reference to the amount of reading done in the medical world, we may, for the sake of convenience, divide the profession into three general classes, giving a type of each.

Firstly, then, we notice the physician who has cultivated habits of study, and who is every spare moment with his books. His practice may be large, and his professional engagements numerous, yet he always finds time to spend with his favorite authors, and read with interest and profit his periodicals. Such men study because they have a passion for it; because they know its necessity, and because they are sure of its rewards. How we may well blush to own that we have too few of such among us.

Again, there is a class by no means small who have a disposition to study, but who are always finding something else of pressing importance to engage their attention. This habit of indolence, easily got into, is hard to shake off, and the victim becomes a constant prey to a knowledge of his ignorance on the one hand, and a desire for reputation on the other. These are not, however, wholly lost to their sense of duty, but are only thoroughly aroused when an emergency occurs in the shape of an important case. The book is then taken from the shelf, and the desired chapter is found. The result of the necessarily hurried reading is to render "confusion worse confounded;" a consultation ensues, and the chance for a reputation may probably be lost to him for ever. Can such a practitioner be unacquainted with the reason of his ignorance?

We will allude to still another class, who ignore reading almost altogether, and make it a practice to rely upon their general knowledge. The principles of medicine which were taught them during the time they attended medical lectures, they are content to spend a lifetime in putting in practice. Examples of such are frequently met with who for more than a quarter of a century have, as far as the acquirement of the knowledge of the science of their profession is concerned, made not the slightest advance. Were we to recite the many facts which have come to our knowledge as proofs of the ignorance of such men, we would be scarcely believed; and yet very many of them enjoy large practices, and their patients believe that they are receiving the benefits which all the recent improvements made in science can give them. It is impossible to conceive how anything short of the merest luck can in the great majority of instances shield such from disgrace, while in their important cases we are forced to admit that they succeed as did the man who when asked upon a certain occasion how he sent a bullet through the centre of a target, replied, "By shutting both my eyes."

We cannot lose sight of the fact that the habit of careful reading must be practised to a greater extent among medical men than it seems to be. No profession should embody more learning than does that of medicine, and the physician who neglects to improve opportunities for acquiring necessary knowledge is in the highest degree culpable.

The question of time is an excuse, which is perhaps oftenest urged against the proper prosecution of study—and with some show of reason. The uncertain calling of a physician no doubt interferes in a very great measure with his plans for self-improvement; a creature of emergency, he can call no time truly his own; but we will venture to say that even among the busiest spare moments can always be found. The very class of cases which are the most destructive of time, the tedious labors, afford not unfrequently golden opportunities for study to him who prepares himself for it by a book in his pocket. It is said with a good deal of truth that busiest men have generally the most time, and no one need search very long in any community to find a case in point.

In large cities there is comparatively less reading among medical men generally than in small towns, the reason for

which can easily be given by reference to the fact that consultations can be called at the shortest notice in the former places. The want of self-reliance is felt much more in the cities of New York, Philadelphia, and Boston, on account of the easy access which all have afforded to men in every speciality, than in the back woods of civilization, where the unassuming country doctor can consult with no one but through his books. Had the city physician half the energy which is possessed by his country cousin, he could, on account of greater facilities, lay claim with good grace to superior qualifications. Surprise has often been expressed at the intelligence of some country physicians, but the trouble is not taken to inquire into the reason for it.

The question naturally comes up here, what shall we read? The answer is, standard works and medical periodicals. We have previously taken occasion to allude to the importance of the latter publications to all engaged in active practice. Standard works appear only at certain periods, while the office of the medical journal is essentially to keep the professional public informed upon every advance in science that has been made in the interval. We have no hesitation in saying that very many lives have been saved by a timely knowledge of a new and valuable mode of treatment, and we imagine that no prejudice against medical journals can offer an excuse for a neglect of duty to the patient.

In conclusion, we must once more urge this necessity upon all those who are not addicted to a habit of study—to set about earnestly to cultivate it, as a duty to themselves, their patients, and their profession. Scientific knowledge is within the reach of the humblest aspirant to medical honors, if he only have energy sufficient to put forth the requisite amount of untiring labor to obtain it. When every facility is afforded for improvement, indolence is the only excuse for ignorance. Let all those who are complaining of want of time, set about seriously to consider how very many opportunities they have allowed to slip by unnoticed. To those who are repentant of past indolence and are acting in accordance with their sense of duty, we would promise a rich reward; the habitual student, however, stands in need of no encouragement.

THE WEEK.

We alluded last week to the neglect of the law regulating the sale of poisons, and on further investigation we conclude that its inefficiency is not due to any defect in the law itself, but to the fact that there is either no one appointed to take cognizance of its violation, or that the proper officers are inattentive to their duty. The penalty for the sale of a poison by an apothecary without complying with the requirements of the law, is a fine of fifty dollars; but as in most cases the purchaser is the only one cognizant of the offence of the vender, no complaint is made, and hence no prosecution laid. But in such cases as those mentioned by us last week, the attempted suicide of Gordon at the Tombs, and another, of which public mention has been made, the Police Justices or other criminal officers should have inquired into them, and brought the offenders to trial. We know of a case, however, in which the District Attorney totally neglected his duty, even though the circumstances of the case (a death which would doubtless have been avoided had the apothecary obeyed the law), with the necessary evidence, were placed in his hands. It has not been heard of since, though a year has elapsed—the probable reason being the family relationship of the offender to a certain well known city official.

We allude to this subject again, to draw attention to the fact, that a provision for the enforcement of this and other important and neglected sanitary laws, is contained in the *Metropolitan Health Bill* now before the Legislature, in the following brief but comprehensive language: "*The Board of Health shall also, in the cities and counties named in this Act, enforce all laws and ordinances prohibiting or regulating the sale of poisonous, adulterated, or unwholesome drugs, medicine, or food.*" If for this clause only, the passage of the act referred to would be a great blessing.

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At the meeting of the Academy of Medicine on Wednesday evening, March 19th, the members will be called upon to give a definite expression by discussion and vote, on the propositions submitted by Dr. Barker at the end of his paper on the "Use of Anæsthetics in Midwifery;" they are as follows:—

1*st.* Anæsthetic aid is of the greatest value in the obstetric art, and chloroform is generally the preferable agent for this purpose.

2*d.* It exerts no injurious effect, when properly administered, upon the health of either the mother or the child.

3*d.* It is perfectly justifiable to use chloroform in natural labor, solely for the purpose of relieving pain.

4*th.* It is especially useful in calming the extreme agitation and mental excitement which labor often produces in every nervous woman.

5*th.* It should be administered in those cases of natural labor where the progress is suspended or much retarded by the pain occasioned by previous diseases, or such as may supervene during labor, and in those cases where the irregular and partial contractions occasion intense and almost constant pain, but have no effect to advance labor.

6*th.* It is of great service in spasmodic contractions and rigidity of the cervix uteri, in tetanic rigidity of the perineum, in certain forms of puerperal convulsions, and in the various obstetrical operations.

It has been too much the custom heretofore to allow important questions that have been discussed to pass without final action. For the proper completion of such subjects, every member should be called upon to give his decision.

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The report of the Philadelphia Board of Health presents some startling facts. Two years since the mortality of that city was officially reported at 1 in 64 of its population; for the year 1861, it was 1 in 39! The deaths by smallpox reached the enormous figure of 758! How is this alarming increase in mortality to be explained?

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We have lately received an announcement of the Annual Medical Register of New York City. The compiler of this work is Dr. Geo. H. Tucker, one of the most laborious and reliable medical statisticians in this country. We have examined the manuscript sheets of the volume, and find the contents of great historical value to the profession. It is to be regretted that we have no *Medical Historical Society* engaged in collecting and preserving the memorials of the past, which are gradually being lost beyond recovery. In the absence of such an organization, a serial work of this kind which, like Valentine's Manual,

shall annually gather up the present medical records of this city, and such memorials of the past as patient research can bring to light, should be liberally sustained. The work will be published only on condition that a sufficient number of subscribers are obtained. We heartily endorse this undertaking of Dr. Tucker, and can assure the profession of the city that the work merits every encouragement.

Reviews.

Health; Five Lay-Sermons to Working People. By John Brown, M.D., Author of "Rab and his Friends," etc. Robert Carter & Brothers, New York.

A good investment for every medical practitioner would be to purchase half-a-dozen copies of this little book, and circulate them among his "families." It affords a most agreeable hour's reading, full of instruction, in the author's peculiar vein of pleasantry, and conveys sentiments, and inculcates practice, relating both to the doctor and the patient, and their mutual relationship, which cannot be too thoroughly instilled. We confess to have derived no little comfort and help from its pages, in the wearisome plodding of the daily round of practice.

Correspondence.

PLUGGING THE VAGINA.

[To the Editor of the American Medical Times.]

Sir:—The following illustrative cases will corroborate the statements made by Dr. E. P. Bennet in the Medical Times, on the use of the speculum, and also show the efficacy of Squibb's Liq. Ferri Persulph. in uterine hæmorrhage. I.—Mrs. B——, in the third month of pregnancy, began to flow after some unusual exertion. I saw her a few hours after. On a digital examination the os was found slightly open, but no membranes protruded. I at once introduced the speculum, and through it passed a conical piece of sponge, saturated with the persulphate, into the os, and retained it there with the forceps for a moment or two. There was no flow for twelve hours, when she suffered some severe uterine pains, and the contents of the womb were expelled in one mass. The loss of blood was very slight, and she regained her strength rapidly. II.—Mrs. W——, about ten weeks advanced in her gestation, returned home from a long walk and was taken with a profuse hæmorrhage from the vagina. I found her on the bed, her face completely blanched and her pulse a mere wave. I was told she had passed some clots, which had been thrown away. Stimulants were administered for immediate relief. Portions of the membrane were protruding from the os, which were removed. The speculum, having its inner surface well oiled, was introduced, and the end of a long strip of muslin, two inches wide, saturated with the persulphate, was carried firmly into the os, and as the speculum was withdrawn the vagina was thoroughly plugged. By these means the hæmorrhage was at once arrested. The tampon was removed after thirty-six hours, and the recovery, though slow, was uninterrupted. III.—I was called, about a year since, to see a woman who was suffering from profuse uterine hæmorrhage. She was fifty years of age, the mother of several children, feeble, and extremely nervous. All the means, general and local, that were practicable, were used to arrest the flow without success. The os was dilated with sponge tents, and the womb examined for polypoid growths, but none were found. My patient failing from day to day, as a last resort I injected two drachms of the persulphate into the cavity of the womb. The hæmorrhage ceased and she recovered. There has been no return of the trouble since.

Yours, etc.,

J. T. Conkling, M.D.

Brooklyn, N. Y., March 1, 1862.

DELIRIUM TREMENS SUCCESSFULLY TREATED BY THE ICED BATH.

Bellevue Hospital, Jan. 29, 1862.

[To the Editor of the American Medical Times.]

Sir:—Some two years since, in conversation with Dr. Bauer of Brooklyn, he suggested to me the use of the ice-bath in delirium tremens. Since that time I have used it several times with the most satisfactory results.

I have just received the inclosed letter from Dr. Smith, of the hospital at the Workhouse on Blackwell's Island, and if you deem it worthy please give it a notice in your valuable journal.

In connexion with this case I would refer to another which came under my treatment some weeks since.

I was called about 11 P.M. to one of our fashionable hotels, to see a gentleman with delirium tremens. He was under the care of two of the best physicians in the city, and yet he was unable to be composed. Had had no sleep for some time, was perfectly wild, great muscular tremor, and jactitation; pulse 160. He was placed in the ice-bath, and retained there 10½ minutes, when he became quiet; pulse 76. He was then placed in bed, and almost immediately dropped asleep. The nurse was directed to repeat the bath in case he again became wild; but strictly cautioned about the danger, and the necessity of carefully watching the pulse in order not to produce too great exhaustion. The next morning I called in consultation at 10 o'clock, and found the patient had gone to business. The nurse stated that he slept quiet until 4 A.M., and then began to talk a little wild; he put him in the bath for three minutes, when he became quiet and was put in bed; he immediately fell asleep, and got up at 8 o'clock, perfectly well, ate his breakfast, and went down town to business.

It is only necessary to refer to the travels of any person in the arctic region, to learn the powerful sedative effect of intense cold; in fact, it is impossible to rouse them up and prevent them from going to sleep. Now this is the great object to be produced in delirium tremens, and in the application of cold we have an agent more powerful than opium, and equally safe if carefully watched.

Yours, etc.,

Lewis A. Sayre, M.D.

New York, Jan. 28, 1862.

Dear Sir:—I have at last had an opportunity to try the ice-water bath for the cure of delirium tremens, as you requested me to do, and I am happy to be able to give you the history of my first case, the result of which is quite satisfactory.

John Wilson, a native of England, 45 years of age, blacksmith by trade, has been in this country fourteen years; he has an excellent constitution, and is remarkably strong and vigorous; was sent to the Workhouse, Jan. 19, 1862. Jan. 20th.—Showing no signs of delirium he was set to work. On the evening of Jan. 22d he became so delirious that we were obliged to place him in a cell by himself, with no medical treatment; for I wished the height of his delirium to have been attained that I might give the ice water a fair trial. He became gradually worse until the evening of Jan. 23d, when it became necessary to place a strait jacket on him. His delirium continued to increase during the night so much, that we were obliged to tie him down. Jan. 24th.—He was now as wild as it was possible for him to be. I had the bath prepared, and sent for Dr. Clark of the Almshouse. 8½ o'clock A.M., the strait jacket was now removed, and his lungs examined by Dr. Clark and myself and found perfectly healthy; he was stripped, and placed in the bath-

tub, where he was kept nine minutes; the ice was broken into small pieces, and dropped in during the whole time; temperature of the water 38°. His pulse was now 102 beats per minute. 1st minute, no change perceptible; 2d minute, no change perceptible; 3d minute, pulse stronger, and not so frequent; 4th minute, sedative effects very perceptible; 5th minute, pulse 100; 6th minute, sedative effects more marked; 7th minute, pulse 90; 8th minute, pulse 80; 9th minute, patient perfectly quiet. He was now removed from the bath, rubbed dry, and placed in bed, well covered up. Ten minutes after, pulse 72; he lay quiet; talks perfectly rational. Nine o'clock, pulse 85; has stopped talking, and is perfectly quiet. He remained quiet until 1 o'clock P.M.; did not sleep; then symptoms of delirium again began to show themselves, and increased rapidly until 8 o'clock P.M. He was again placed in the bath; temperature of the water 38°; pulse 82. He was kept in the water this time twelve minutes. 3d minute, sedative effects marked; 4th minute, pulse slower; 6th minute, pulse 64; 11th minute, pulse 50; 12th minute, he was now on the verge of syncope, and gasping. I immediately removed him from the bath, had him rubbed dry, and placed in bed, when he soon went to sleep. Jan. 25th.—Slept well all night, ate his breakfast, and has again gone to sleep. Jan. 26th.—Slept well last night. Jan. 27.—Eats heartily; no symptoms of tremor remain. Jan. 28.—He has gone to work, perfectly well. I am confident that if I had continued the first bath, until I had made a more decided impression upon him, there would have been no occasion for the second one; but it was the first time I had ever seen anything of the kind, and I was naturally afraid of so powerful a remedy.

Yours, etc.,

ORSAMUS SMITH,
Resident Physician.

DR. LEWIS A. SAYRE.

FOREIGN MEDICAL NOTES.

IN Paris, one of the most recent scientific events has been the appearing of Ricord in the amphitheatre of Hotel Dieu, by special invitation of M. Trousseau (or rather, I might say, he was forced out by the "*contagionnistes secondaires*"), who furnished him with the following knotty text to preach from:—

A young woman, eighteen years of age, entered the 6th of September in the service of Professor Trousseau to receive treatment for metritis. She had been vaccinated in infancy, as well marked traces in both arms were to be seen. In October there existed in the same service an epidemic of varioloid, and as our patient was obliged still to remain in the hospital, she was freshly vaccinated in the first days of said month. The vaccine was got from a child of good aspect, and whose mother was healthy. The same vaccine served four others, and in all five its phases were normal. In the young woman, on the contrary, it did not work so well; the pricks made with the lancet became prominent the day after, with an inflamed areola, itching extreme; and four or five days after all signs of a sore had passed away. She left the hospital November 9th, that is to say, a full month after the operation, without having presented any pustule or any suspicious coloration at the point of vaccination. After her liberty she was well until the first days of December, when she returned to show her arm, which had at the place vaccinated two ulcerations covered with thick scabs, and stratified like scabs of rupia. These ulcerations were at the time regarded as being the result of a vaccination of long incubation, *à debut tardif, à marche anormale*. One month later, January 11th, 1862, Madame X. applied for readmittance to the Hospital, as her uterine affection required still further treatment. At this date the *apparent* vaccine sores had not cicatrised, but continued to suppurate; their scab seemed indurated; in the axilla was found adenopathy, while on the trunk, arms, and chin, bloomed a roséole, the specific nature of which could not be doubted, and besides, there was cephalalgia and occipital adenopathy. The patient stated that the eruption had existed since the middle of December, 1861, that is to say, six weeks after inoculation of the vaccine.

DIAGNOSIS OF M. RICORD.

Ulcus elevatum, double, on the left arm, *pléiade ganglionnaire, roséole spécifique*, type of syphilis constitutional, having had its origin, its *porte d'entrée*, in the two ulcerations of the left arm.

How did this woman contract syphilis? M. Ricord gave two lectures upon this case, and on each occasion the little amphitheatre of Trousseau was densely crowded with admiring friends, for he was always popular. He commenced by making the following rapid *exposé* of his doctrine in syphilis, which, with some slight modifications, is as of old, as that still inculcated at *Hôpital du Midi*:—No syphilis without chancre—*chancre induré* is the *chancre infectant*—the *chancre infectant* has, as consequence, indolent adenitis, non-suppurating and always general infection, if not opposed by proper treatment. Soft chancre, non-infecting:—neighboring glands may inflame, be painful, and suppurate. Every individual having had an indurated chancre can contract but a soft chancre, unless the syphilitic diathesis had been entirely eradicated by treatment, which is comparatively rare. M. Ricord no longer believes that the difference in these chancres is owing to difference of *terrains*, and now admits the duality of virus.

As for the contagious powers of secondary affections M. Ricord *concedes that such accidents do occur*, but that they are of very rare occurrence. Dr. Sarrhos, he stated, inoculated himself with matter from secondary affections over thirty times, and always without success. Also M. Cullerier (successor to Ricord at the Midi Hospital) was inoculated in the forearm a great number of times with the morbid secretions of secondary syphilis, and always with impunity. While he admits that secondary can be *occasionally* contagious, M. Ricord is of opinion that the advocates of this doctrine have frequently mistaken an indurated chancre for a *plague mucus*, and have in this manner procured so much evidence in their favor.

Finally, can syphilis be transmitted by the blood? Can the blood of an individual, syphilitic when it gets inoculated, generate syphilis in the same manner as pus taken from an indurated chancre? Is the blood of a syphilitic contagious? Evidently not; if so, what would be the consequence of bleeding, blistering, and leeching one-third of our Hospital patients in large cities? And where is the surgeon who has not again and again literally washed his hands, regardless of excoriations, in syphilitic blood, and have any of them as yet contracted the disease in such manner?

How the subject of these observations contracted syphilis is not decided. The great Ricord staggers, and the momentous question as to whether or not vaccine is a vehicle for syphilis remains open for further dissertation. *Lumière s'il vous plait.*

CYGNET.

Jan. 31, 1862.

BARON SEUTIN, member of the Senate, and physician-in-chief of the Belgian army (1831–40), etc., has just expired at Brussels, at the age of sixty-nine. This distinguished practitioner was ennobled by King Leopold. He was also an officer of the Legion of Honour.—*Brit. Med. Jour.*

LIST OF THE NAMES OF SURGEONS AND ASSISTANT SURGEONS APPOINTED TO THE VOLUNTEER REGIMENTS OF THE STATE OF NEW YORK, SINCE JAN. 24, 1862, AND THE CHANGES WHICH HAVE OCCURRED IN THE REGIMENTS IN THE FIELD FROM THE SAME DATE.

Feb. 18.—Henry C. May, M.D., Surgeon 5th Regt., vice James L. Van Ingen, discharged; Owen Munson, M.D., Assist. Surgeon 5th Regt., vice B. Ellis Martin, resigned; A. F. Fitch, M.D., Assist. Surgeon 79th Regt., vice ————, on parole. Feb. 20.—Robert V. McKim, M.D., Assist. Sergeon 57th Regt., promoted to Surgeon, vice Geo. H. Leach, resigned; Henry C. Dean, M.D., Assist. Surgeon 57th Regt., vice Robert V. McKim, promoted; W. C. Lewis, M.D., Assist. Surgeon 82d Regt. (2d N. Y. S. M.), vice —— Ferguson, on parole.